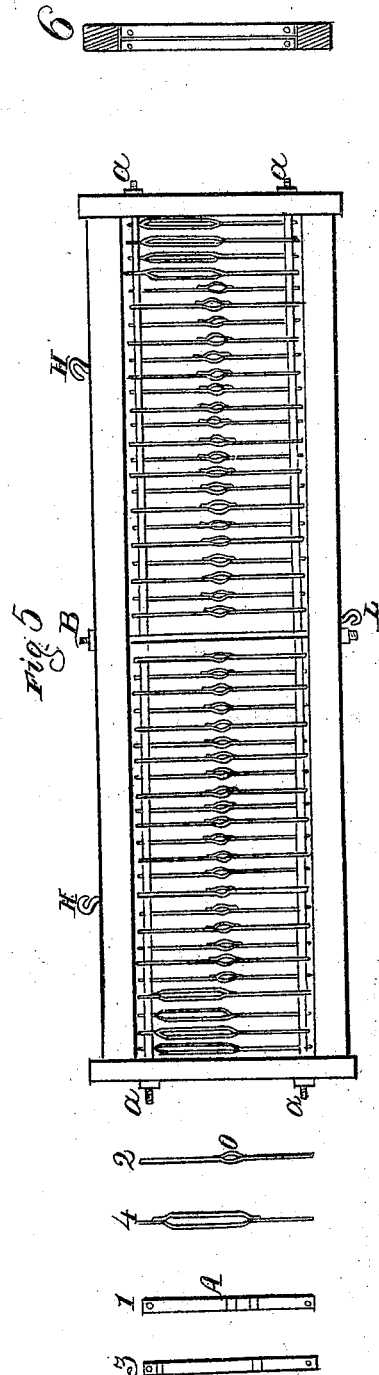


C. Strong Heddles.

N^o 1563.

Patented Apr 24. 1840.



UNITED STATES PATENT OFFICE.

CHARLES STRONG, OF HARTFORD, VERMONT.

METALLIC HEDDLE FOR LOOMS.

Specification of Letters Patent No. 1,563, dated April 24, 1840; Antedated January 21, 1840.

To all whom it may concern:

Be it known that I, CHARLES STRONG, of Hartford, in the county of Windsor and State of Vermont, have invented a new and useful Improvement in the Form and Construction of the Metallic Heddle for Weaving Satinet and other Cloths, also for Weaving Lists on said Cloths, and the following is a full and exact description of the construction and form of said heddles as improved by me.

Take a piece of thin tinned iron or other metal of the length and width of Figure I, having a hole punched at each end, as in the figure, for the admission of wires to adjust the heddles in place. The number of heddles is to correspond to the number of threads of warp, in the piece to be woven. In the center of the heddle, and at right angles with the holes at the ends, is to be constructed an eyelet hole, or place, through which a thread of the warp is to pass. This eyelet hole is a little less than one-half inch in length, and is so formed that each thread of the warp is in the same plane with the edge of the heddle. The eyelet hole is made in the following manner: The piece to compose the heddle is to be grasped in the center by a pair of pincers, or other tool, so adjusted as to bend the metal out and to depress it for about the space of half an inch in length, so that the depression shall not exceed the thickness of the tin. Take another piece of tin or other metal of the same width and thickness of the heddle, one inch in length, and let it be bent as in the former case. These two pieces are to be soldered together, having their convex surfaces outward. The extremities of these indentations are to be convex inward, as shown in Fig. I, letter A. The purpose of this is to present a semi-circular surface for the thread to pass over, in the upward and downward motion of the harness or heddle. The eyelet hole of the heddle is shown in Fig. II, letter O, in which figure the edge of the heddle is shown.

Fig. I represents the length and breadth of the common heddle, with the holes at the ends, for the admission of the wires, on which the heddles are to be suspended. The length, width and thickness of the metallic heddles, for weaving lists, with the holes at the ends for the admission of the

wires, are in all respects like the common heddles. They differ from the other only in the length of the eyelet-holes.

To make a listing heddle, the depression in the heddle should extend from near the hole at the end as far past the center as one extremity of the eyelet hole in the common heddle passes the center. The piece to be soldered onto the heddle to form the eyelet-hole must be of a length to correspond. The piece to be soldered on and the depressions must be longer than in the common heddles, in all other particulars, they are alike.

Fig. III shows a listing heddle, presenting the flat surface to the eye. Fig. IV shows the edge of the listing heddle, having the eyelet hole extending from near the hole at the end, a little past the center. Four listing heddles are generally used, on each edge of the warp, and their operation, as also the operation of the common heddles, is similar to the operation of the twine harness, in the process of weaving. To avoid crowding the heddles too near together, they are to be arranged on four wires, instead of on two, on each harness frame, as is the common practice. The two wires are so placed, that one shall be about $\frac{3}{4}$ ths of an inch behind the other—as shown in Figs. 5 and 6—when viewed from the front of the loom. If the wires are numbered 1 and 2, the first heddle would be placed on No. 1, the second on No. 2, and every other heddle alternately on No. 1, and No. 2. The only purpose of this arrangement is to give space for the eyelet-holes, in highly slayed cloths, and it may be dispensed with in some kinds of weaving.

Fig. V shows the form of a harness frame, with the heddles strung on wires. The wires are strained by means of nuts and screws at the ends. The nuts are marked *a, a, a, a*. The four listing heddles are seen at each end of the harness. *B*, shows a rod, running at right angles with the wires, on which the heddles are arranged. The object of the rod is to give support to the wires. The loop *L*, at the bottom is designed to give attachment to the pedal, and the two hooks, at the top, marked *H, H*, are designed to receive a cord passing over a pulley to aid the upward and downward motion of the harness.

I do not claim to have invented the metallic heddle, but I claim to have made improvements upon it.

What I claim is,

- 5 1. That I have invented the method of constructing the eyelet-holes, in the common and listing heddles as above specified; and
2. I claim to have invented the method of
10 arranging the metallic heddles, in two rows,

instead of one, by which arrangement, higher slayed cloths may be woven by the metallic heddles, than without that arrangement, as above specified and described.

Woodstock, March 20th 1840.

CHARLES STRONG.

Witnesses:

DAVID PIERCE.

M. L. PIERCE.